

### AMENDMENTS TO THE CLAIMS

1. **(CURRENTLY AMENDED)** An identification device including in a single coded layer first, second and third machine-readable identification codes arranged along length, width and height dimensional axes and each provided with coding elements **extending varying** along their respective dimensional axes, **including coding units smaller than 1 micrometer in at least one direction.**
2. **(ORIGINAL)** An identification device according to claim 1, wherein the first, second and third identification codes are located substantially orthogonal to one another.
3. **(PREVIOUSLY PRESENTED)** An identification device according to claim 1, wherein there is provided a fourth identification code which has a physical characteristic different from that of at least one of the first, second and third codes.
4. **(PREVIOUSLY PRESENTED)** An identification device according to claim 3, wherein the different physical characteristic includes one of a different chemical composition, electrical characteristic, magnetic characteristic, color and texture.
5. **(CANCELED)**
6. **(PREVIOUSLY PRESENTED)** An identification device according to claim 1, wherein the device has dimensions of the order of micrometers or less in at least two directions.
7. **(CANCELED)**
8. **(CURRENTLY AMENDED)** An identification device according to claim 1, wherein the device is not visible to the naked eye **at any distance.**

9. **(CURRENTLY AMENDED)** An identification device including first and second machine-readable identification codes arranged along different dimensional axes to one another, **these dimensional axes including a height axis**, said first and second codes not being visible to the naked eye **at any distance**, and a further machine-readable identification code which has a physical characteristic different from that of the first and second codes, **wherein at least one of the codes has coding units smaller than 1 micrometer in at least one dimension**.
10. **(CURRENTLY AMENDED)** A security device for an article, including on an exterior surface of the device a coded item having coding units ~~of the order of nanometers~~ **smaller than 1 micrometer** in at least one dimension.
11. **(PREVIOUSLY PRESENTED)** A security device according to claim 10, wherein the coded item is a barcode and the coding units are individual bars of the barcode.
12. **(PREVIOUSLY PRESENTED)** A security device according to claim 10, wherein the coded item provides a code in at least two dimensions.
13. **(PREVIOUSLY PRESENTED)** A security device according to claim 10, wherein the coded item provides a code within a single layer which includes first, second and third codes arranged along length, width and height dimensional axes.
14. **(CANCELED)**
15. **(CANCELED)**

16. **(CURRENTLY AMENDED)** An identification device according to claim 1 in combination with a detection apparatus, the detection apparatus comprising:
- a. locating means for locating the identification device on an article,
  - b. at least one reading means separate from the locating means, wherein the reading means includes an atomic force microscope ~~or other micro-computerised measuring machine~~, and
  - c. control means operable to control the reading means to read the codes.
17. **(PREVIOUSLY PRESENTED)** An identification device according to claim 1 provided on one of:
- (1) a currency banknote, or
  - (2) a security paper.
18. **(PREVIOUSLY PRESENTED)** An identification device according to claim 1 provided on one of:
- (1) a gemstone, or
  - (2) jewelry.
19. **(PREVIOUSLY PRESENTED)** An identification device according to claim 9 provided on one of:
- (1) a currency banknote, or
  - (2) a security paper.
20. **(PREVIOUSLY PRESENTED)** An identification device according to claim 9 provided on one of:
- (1) a gemstone, or
  - (2) jewelry.

21. **(CURRENTLY AMENDED)** An article including a machine-readable message thereon, the message encoding predetermined information, wherein the message is defined by elements which:
- a. are sized:
    - (1) sufficiently small to be invisible to the naked eye **at any distance, and**
    - (2) **smaller than 1 micrometer in at least one direction,**
  - b. are arrayed along the article,
  - c. protrude from the surface of the article, and
  - d. vary in one or more machine-readable characteristics, wherein such variation in characteristics encodes the predetermined information.
22. **(PREVIOUSLY PRESENTED)** The article of claim 21 wherein the elements have at least substantially similar shape but vary in one or more of their:
- (1) spacing,
  - (2) height dimensions,
  - (3) width dimensions, and
  - (4) length dimensions,
- wherein such variation encodes the predetermined information.
23. **(NEW)** An identification device according to claim 1, including on an exterior surface of the device a coded item having coding units smaller than one of 500  $\mu\text{m}$ , 10  $\mu\text{m}$  or 20  $\mu\text{m}$  in at least one direction other than the direction in which the coding units are smaller than one micrometer.
24. **(NEW)** An identification device according to claim 1, wherein the coding units comprise one of polymer and cross-linked polymer.

25. **(NEW)** An identification device according to claim 1, comprising contiguous coding units of different heights.
26. **(NEW)** An identification device according to claim 1, wherein the coding units are formed by one of: mask imprinting, nano-imprint lithography, hot embossing, cold embossing, UV curing during embossing, cold embossing in metal, and direct embossing in silicon.
27. **(NEW)** An identification device according to claim 1, comprising coding units, formed of a polymer, on a semiconductor substrate that does not reflect infra-red.
28. **(NEW)** An identification device according to claim 9, including on an exterior surface of the device a coded item having coding units smaller than one of 500  $\mu\text{m}$ , 10  $\mu\text{m}$  or 20  $\mu\text{m}$  in at least one direction in at least one direction other than the direction in which the coding units are smaller than one micrometer.
29. **(NEW)** An identification device according to claim 9, wherein the coding units comprise one of polymer and cross-linked polymer.
30. **(NEW)** An identification device according to claim 9, comprising contiguous coding units of different heights.
31. **(NEW)** An identification device according to claim 9, wherein the coding units are formed by one of: mask imprinting, nano-imprint lithography, hot embossing, cold embossing, UV curing during embossing, cold embossing in metal, and direct embossing in silicon.
32. **(NEW)** An identification device according to claim 9, comprising coding units, formed of a polymer, on a semiconductor substrate that does not reflect infra-red.

- 33. **(NEW)** An article according to claim 21, wherein the elements are smaller than at least one of 500  $\mu\text{m}$ , 10  $\mu\text{m}$  or 20  $\mu\text{m}$  in at least one direction in at least one direction other than the direction in which the elements are smaller than one micrometer.
- 34. **(NEW)** An article according to claim 21, wherein the elements comprise one of polymer and cross-linked polymer.
- 35. **(NEW)** An article according to claim 21, comprising contiguous elements of different heights.
- 36. **(NEW)** An article according to claim 21, wherein the elements are formed by one of: mask imprinting, nano-imprint lithography, hot embossing, cold embossing, UV curing during embossing, cold embossing in metal, direct embossing in silicon.
- 37. **(NEW)** An article according to claim 21, comprising elements formed of a polymer, on a semi-conductor substrate that does not reflect infra-red.